

**TASK ORDER NUMBER 3
TO AGREEMENT FOR PROFESSIONAL SERVICES
ON A CONTINUING BASIS**

THIS TASK ORDER is made as of the 12th day of November in the year 2013, between **THE CITY OF LEESBURG, FLORIDA**, a Florida Municipal Corporation, whose address is 501 West Meadow Street, Post Office Box 490630, Leesburg, Florida 34749-0630 (hereinafter referred to as the "CITY"), and **BOOTH AND ASSOCIATES, INC.** whose address is 5811 Glenwood Avenue Raleigh, NC 27612 (hereinafter referred to as the "PROFESSIONAL").

WITNESSTH:

WHEREAS, on July 23, 2012 the CITY and PROFESSIONAL entered into an Agreement for professional engineering services on a Continuing Basis (hereinafter referred to as the "Master Agreement"). The Master Agreement is referenced herein as though set forth in full text.

WHEREAS, the CITY and the PROFESSIONAL desire to enter into a Written Task Order Number 3.

NOW THEREFORE, for and in consideration of the mutual covenants and promises contained in this Task Order, the CITY and the PROFESSIONAL do hereby agree as set forth below:

1. The above recitals are true and correct and are incorporated herein.
2. The Parties agree to the scope of work and budget pursuant to the terms and conditions set forth in **ATTACHMENT "A"**.
3. The not to exceed costs for the Scope of Services covered by this Task Order as detailed in **ATTACHMENT "A"** total \$55,450.00.
4. Counterparts. Original signatures transmitted and received via facsimile or other electronic transmission of a scanned document, (e.g., PDF or similar format) are true and valid signatures for all purposes hereunder and shall bind the parties to the same extent as that of an original signature. Any such facsimile or electronic mail transmission shall constitute the final agreement of the parties and conclusive proof of such agreement. Any such electronic counterpart shall be of sufficient quality to be legible either electronically or when printed as hardcopy. The CITY shall determine legibility and acceptability for public record purposes. This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original and all of which shall constitute the same instrument.

[Signature page follows.]

IN WITNESS WHEREOF, the parties hereto have executed this Task Order on the respective dates under each signature.

BOOTH AND ASSOCIATES, INC.

By: _____

Printed: _____

Its: _____
(Title)

Date: _____

THE CITY OF LEESBURG, FLORIDA

By: _____

Mayor/Commissioner

Attest: _____

City Clerk

Date: _____

Attachment "A"

Scope of Work

The City of Leesburg Electric Department is replacing a substation class transformer.

1. Transformer Bus Connections

- a. Transformer Hi side to remain string bus.
- b. Transformer Lo side to remain aluminum tubular bus.
- c. Provide a review of the wire size used to replace old string bus with new wire. Provide a review of the existing isolation switches, and power jumper ratings.

2. Protection

- a. The replacement of the transformer shall include the upgrade of the associated protective relaying. Booth shall design the upgrade, and the City will be responsible for the actual physical retrofit work.
- b. Booth shall engineer the removal of the existing transformer protection system: transformer differential, back-up overcurrent, prevent trip, sudden pressure, transformer temperature trip. The design shall replace all cabling out to the equipment and all interior wiring as required. Commissioning (see below) shall verify all circuits.
- c. Install new SEL-387E for Transformer Differential Protection.
- d. Incorporate a element of the 387E for prevent trip duty on the existing circuit switcher.
- e. Provide overcurrent and design coordination of new bank breaker that is included in another job packet (WF-836450).
- f. Reconnect new sudden pressure relay to existing lockout scheme.
- g. Reconnect new temperature trip to existing trip scheme.
- h. Tap-Con 250 setup and programming to be included in this quote.
- i. SEL-2414 and SEL-2533 setup and programming to be included in this quote.
- j. Incorporate in the nitrogen system a complete control and annunciation circuit for transformer 2.
- k. Include in Intelligent Electronic Device setup all labels, programming, parameters and function sheets.

Attachment "A"

Scope of Work

- l. Set up and apply applicable setting files to newly installed protective relays.
- m. Newly installed Sel-387E and Sel-351S relays will be acceptance tested and copies of the results will be provided for record keeping.
- n. Upon completion of control house wiring, point to points of internal wiring and wiring checks of cables will be performed per schematics and wiring diagrams.
- o. DC circuits will be checked for proper fusing, polarity and levels. The DC System will also be checked for the absence of grounds.
- p. All new and revised protective circuits will be trip tested which will involve operating all appropriate equipment according to applicable schematics.
- q. All Relay settings will be included.

3. Communication (Not part of the scope, Provided for information)

- a. 12 count fiber to be pulled to new transformer control cabinet by City of Leesburg.
- b. Fiber cable, termination and location by City of Leesburg
- c. Tapcon 250 to be connected to existing RTAC 3530 via fiber by City.
- d. SEL 2414 to connected to existing RTAC 3530 via fiber by City.
- e. SEL-2533 to be connected either to the SEL-2414 or the RTAC 3530 via fiber.
- f. Protocol for Tapcon 250 to be DNP3, SEL protocol for communication to another SEL device.
- g. All cables and transceivers by the City.

4. Existing Conditions

- a. Verify the depth/width construction of existing concrete pad making sure it will handle load of new transformer.
- b. Verify clearance distances of existing structures, high side structure is in close proximity to existing transformer.
- c. Verify clearance on existing meter structure.
- d. It is expected that these existing conditions can be verified via review of existing drawings and that field investigation will

Attachment "A"

Scope of Work

not be required. Any areas of concern will be brought to the City's attention.

5. Testing & Commissioning

- a. Verify all equipment test reports from the factory are within industry standards.
- b. Provide testing and commissioning of the upgraded transformer relaying systems and all components in service. It is preferred that the person leading the testing and commission be the principal design engineer of the systems.
- c. Witness the transformer factory acceptance testing.
- d. Review engineering documents and initial factory test data provided by transformer manufacturer and make recommendations.
- e. Upon Transformer setup and wiring completion, perform wiring checks of cables per schematics and wiring diagrams.
- f. Set up and apply applicable setting files to local transformer operational and protective relays.
- g. Verify all power supply voltages and polarities.
- h. Perform cooling/trip/alarm checks of transformer protective devices to control cabinet via applicable schematics.
- i. Errors found during testing will be corrected and circuits retested.
- j. Perform continuity checks of CT circuits via applicable schematics. This will include a meggar test of the ground circuits for one common ground. Unused CTS will be checked for proper shorting.

6. SCADA Controls

- a. The new equipment will be integrated into the City's SCADA system. Booth will be responsible for programing the IED's. The City is responsible for programing the communications gateway at the substation (SEL-3530 RTAC), and the SCADA Master.
- b. All new and revised control circuits will be manipulated in order for SCADA controlled equipment to be operated and tested via Remote control within clearance boundaries.

Attachment "A"

Scope of Work

- c. Metering data for SCADA purposes should also be tested at this time if applicable. Note: Data can also be checked during commissioning if needed.

7. In Service Commissioning

- a. All PT and CT secondaries of newly installed and revised circuits will be commissioned with in-service load current for proper quantities and phase relationships.

8. Turn over Documentation

- a. All applicable testing documentation of newly installed equipment will be turned over for appropriate record keeping.
- b. Three (3) Printed copies of all test and commission reports and one (1) electronic copy
- c. Transformer Vendor Drawings (as-manufactured): Two (2) Sets Drawings, one (1) set in AutoCad Format.
- d. Construction Drawings: Two (2) Sets Drawings, one (1) set in Electronic Format.
- e. As-Built: two (2) Sets Drawings, one (1) set in AutoCad Format.

9. Compensation

Task No.	Description	Estimated Cost
1	Protection and Controls	\$25,850
2	Testing & Commissioning	\$25,800
3	Turn Over Documentation	\$3,800
	Total	\$55,450